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BURNS, DOANE, SWECKER & MATHIS, L.L.P.

P.O. Box 1404

Alexandria, VA 22313-1404

EXAMINER

ZERVIGON, RUDY

ART UNIT

PAPER NUMBER

1763

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/623,540

Applicant(s)

KENNEDY ET AL.

Examiner

Rudy Zervigon

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 and 26-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 26-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)     | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “131” has been used to designate both “upper portion”, “threads” and “external threads”. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “12” has been used to designate both “second member”, and “inner electrode member”. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Art Unit: 1763

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “14” has been used to designate both “outer electrode member”, “second member”. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “18” has been used to designate both “backing plate”, and “first member”. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “22” has been used to designate both “backing ring”, “first member”.

Art Unit: 1763

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance..

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "24" has been used to designate both "top plate", and "third part". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 1763

8. Claims 1-21, and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes; Michael et al. (US 6,818,096 B2) in view of Ishida; Toshimichi et al. (US 5,766,364 A). Barnes teaches a component (Figure 1; column 1, line 55 - column 2, line 58) of a plasma (abstract) processing apparatus, comprising: a first member (1; Figure 1) bonded<sup>1</sup> to a second member (8,2; Figure 1), the first member (1; Figure 1) including a plurality of through apertures (T-shaped hole for 18; Figure 1) having a first portion (top portion of through hole for 18; Figure 1) and a second portion (bottom portion of through hole for 18; Figure 1) wider than the first portion (top portion of through hole for 18; Figure 1) - claim 1

Barnes further teaches:

- i. The component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 1, wherein (i) the first fastener members (22; Figure 1) are T-nuts having a T-shape (as seen in Figure 1) and internal threads, or (ii) the first fastener members (22; Figure 1) comprise a head (top thickest portion of 18; Figure 1) and an externally threaded end portion opposite the head (top thickest portion of 18; Figure 1), as claimed by claim 2. It is inherent that Barnes' bolts have "a head and an externally threaded end portion opposite the head".
- ii. The component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 1, wherein the surface that at least partially defines the second portion (bottom portion of through hole for 18; Figure 1) of the aperture (T-shaped hole for 18; Figure 1) is a second bearing surface – claim 3
- iii. first fastener members (22; Figure 1) comprise a rectangular-shaped head (see rectangular shape in Figure 1), as claimed by claim 5

Art Unit: 1763

- iv. first fastener members (22; Figure 1) includes a noncircular-shaped head (see rectangular shape in Figure 1), as claimed by claim 6
- v. The component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 1, further comprising: a temperature-controlled (20; Figure 1; column 2, lines 35-58) top plate (7; Figure 1; column 2, lines 35-58) on (on top of) the first member (1; Figure 1) adjacent the first portion (top portion of through hole for 18; Figure 1) of the apertures (T-shaped hole for 18; Figure 1) of the first member (1; Figure 1) and including a plurality of through openings (top portion of T-shaped hole for 18 - not labeled; Figure 1) each aligned with a respective aperture (T-shaped hole for 18; Figure 1) in the first member (1; Figure 1) – claim 4
- vi. The component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 4, wherein each of the first fastener members (22; Figure 1) comprises external threads<sup>2</sup> – claim 9. It is inherent that Barnes' "bolts" have "a head and an externally threaded end portion opposite the head". And that Barnes' "bolts" have "first fastener members (22; Figure 1) comprises internal threads, and each of the second fastener members (18; Figure 1) comprises external threads engaged with the internal threads of a respective first fastener member (22; Figure 1)".
- vii. A showerhead (Figure 1) electrode (7; Figure 1) assembly for a plasma (abstract) processing apparatus (Figure 1), comprising; an electrode (7; Figure 1) having a gas injection opening (5; Figure 1); a backing member (1; Figure 1) secured to the electrode (7), the backing member (1; Figure 1) including a plurality of through apertures (T-shaped hole for 18; Figure 1; column 2, lines 35-58) each having a first portion (bottom

Art Unit: 1763

portion of through hole for 18; Figure 1; column 2, lines 35-58) and a second portion (top portion of through hole for 18; Figure 1) wider than the first portion (bottom portion of through hole for 18; Figure 1); a top plate (7; Figure 1; column 2, lines 35-58) including a plurality of through openings (top portion of T-shaped hole for 18 - not labeled; Figure 1) each of which is aligned with a respective aperture (T-shaped hole for 18; Figure 1; column 2, lines 35-58) in the backing member (1; Figure 1); second fastener member (18; Figure 1) to secure the backing member (1; Figure 1) to the top plate (7; Figure 1; column 2, lines 35-58) – claim 17

- i. The component of Claim 11, wherein the third member (7; Figure 1 - Applicant equates his “top plate” with “third member”) is a temperature-controlled top plate (7; Figure 1; column 2, lines 35-58), as claimed by claim 28
- ii. The showerhead electrode assembly of Claim 17, wherein the top plate (8) is on (touching) the backing member (1; Figure 1) adjacent the first portion of the apertures (T-shaped hole for 18; Figure 1; column 2, lines 35-58) of the backing member (1; Figure 1) and temperature-controlled, as claimed by claim 29

Barnes does not teach:

- i. a plurality of first fastener members (22; Figure 1) each mounted in an aperture (T-shaped hole for 18; Figure 1) of the first member (1; Figure 1) each first fastener member (22; Figure 1) including a head (widest portion of 22; Figure 1) configured to prevent rotation of the first fastener members (22; Figure 1) relative to the first member (1; Figure 1), the head (widest portion of 22; Figure 1) having a bearing surface (lowest surface of widest portion of 22; Figure 1) facing a surface that at least partially defines

- the second portion (bottom portion of through hole for 22; Figure 1) of the aperture (T-shaped hole for 18; Figure 1) – claim 1
- ii. the bearing surface of each of the first fastener members (22; Figure 1) each include a head (thickest portion of 22; Figure 1) bonded with an elastomer to the surface - claim 3
  - iii. a plurality of second fastener members (18; Figure 1) each engaged with a respective first fastener member (22; Figure 1) to secure the first member (1; Figure 1) to the top plate (7; Figure 1; column 2, lines 35-58) - claim 4
  - iv. The component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 1, wherein the first member (1; Figure 1) comprises a plate made of graphite, and the second member (8,2; Figure 1) comprises a showerhead (top thickest portion of 18; Figure 1) electrode made of silicon, as claimed by claim 7
  - v. The component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 1, wherein the second member' (8,2; Figure 1) comprises an inner silicon electrode (2; Figure 1) and a segmented outer silicon electrode (8; Figure 1), and the first member (1; Figure 1) comprises a graphite backing plate (1; Figure 1) secured to the inner silicon electrode (2; Figure 1) and a graphite backing ring (11; Figure 1) secured to the outer silicon electrode (8; Figure 1), as claimed by claim 8
  - vi. each of the second fastener members (18; Figure 1) comprises internal threads<sup>2</sup> engaged with the external threads of a respective first fastener member (22; Figure 1) - claim 9
  - vii. Barne's component (Figure 1; column 1, line 55 - column 2, line 58) of Barne's plasma processing apparatus (abstract), comprising: Barne's second member (3; Figure 1) including Barne's attachment surface (2/3 interface; Figure 1) and Barne's exposed

surface (lowest surface of 3) adapted to be exposed to Barne's interior of Barne's plasma processing chamber (Abstract); Barne's first member (1; Figure 1) including Barne's first surface (Lowest Surface of 1; Figure 1) spaced from Barne's second surface (Top Surface of 1; Figure 1), Barne's first surface (Lowest Surface of 1; Figure 1) being bonded<sup>1</sup> to Barne's attachment surface (2/3 interface; Figure 1) of Barne's second member (3; Figure 1), Barne's first member (1; Figure 1) including axially extending apertures (passages for 4) extending between Barne's first surface (Lowest Surface of 1; Figure 1) and Barne's second surface (Top Surface of 1; Figure 1), each of the apertures (4) including Barne's first portion opening in Barne's first surface (Lowest Surface of 1; Figure 1) and Barne's second portion opening in Barne's second surface (Top Surface of 1; Figure 1), Barne's first portion being wider in Barne's transverse direction than Barne's second portion; and fastener members located in Barne's second portions (top surface of 4) of Barne's apertures (4), as claimed 10

- viii. Barne's component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 10, further comprising: Barne's third member (7; Figure 1 - Applicant equates his "top plate" with "third member") adjacent Barne's second surface (Top Surface of 1; Figure 1) of Barne's first member (1; Figure 1) and including through openings () aligned with Barne's apertures (4) in Barne's first member (1; Figure 1); and Barne's connectors ("pins/studs" 4) located in Barne's openings (holes in 2 accommodating "pins/studs" 4), Barne's connectors ("pins/studs" 4) being detachably engaged with the fastener members such that Barne's third member (7; Figure 1 - Applicant equates his "top plate" with "third member") is detachable from Barne's first member (1; Figure 1), as claimed by claim 11

Art Unit: 1763

- ix. Barne's component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 10, wherein Barne's second member (3; Figure 1) is Barne's showerhead electrode, and Barne's first member (1; Figure 1) is Barne's backing plate, as claimed by claim 12
- x. Barne's component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 11, wherein the fastener members are T-nuts having a T-shape (as seen in Figure 1), and the Barne's connectors ("pins/studs" 4) include external threads, as claimed by claim 13
- xi. Barne's component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 10, wherein Barne's second portions (top surface of 4) of Barne's apertures (4) comprise at least one load-bearing surface (top surface of "pins/studs" 4) extending in Barne's transverse direction, and the fastener members comprise at least one surface bonded to Barne's load-bearing surface (top surface of "pins/studs" 4), as claimed by claim 14
- xii. Barne's component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 10, wherein the fastener members are T-nuts having a T-shape (as seen in Figure 1), as claimed by claim 15
- xiii. Barne's component (Figure 1; column 1, line 55 - column 2, line 58) of Claim 11, wherein Barne's first portions of Barne's apertures (4) are round holes having diameters larger than diameters of openings (holes in 2 accommodating "pins/studs" 4) in Barne's third member (7; Figure 1 - Applicant equates his "top plate" with "third member"), as claimed by claim 16
- xiv. a silicon electrode having gas injection openings – claim 17
- xv. a graphite backing member (1; Figure 1) – claim 17

Art Unit: 1763

- xvi. a plurality of first fastener members (22; Figure 1), each first fastener member (22; Figure 1) being mounted in a respective aperture (T-shaped hole for 18; Figure 1; column 2, lines 35-58) of the backing member (1; Figure 1), the first fastener member (22; Figure 1) including a bearing surface (lowest surface of widest portion of 18; Figure 1) facing a surface at least partially defining the second portion (top portion of through hole for 18; Figure 1) of the apertures (T-shaped hole for 18; Figure 1; column 2, lines 35-58) – claim 17
- xvii. The showerhead electrode assembly of Claim 17, wherein the first fastener members (22; Figure 1) each comprise a head adhesively bonded to the bearing surface of the aperture, and/or the first fastener members (22; Figure 1) are T-nuts – claim 18
- xviii. The showerhead electrode assembly of Claim 17, wherein the second portion of each aperture is configured to prevent rotation of the first fastener member (22; Figure 1) relative to the backing member (1; Figure 1) – claim 19
- xix. The showerhead electrode assembly of Claim 17, wherein the silicon electrode comprises an inner member and a segmented outer member, and the backing member (1; Figure 1) comprises a backing plate secured to the inner member and a backing ring secured to the outer member – claim 20
- xx. The showerhead electrode assembly of Claim 17, wherein (i) each of the first fastener members (22; Figure 1) comprises internal threads, or (ii) each of the first fastener members (22; Figure 1) comprises external threads - claim 21
- iii. second fastener members (18; Figure 1) comprises external threads engaged with the internal threads of a respective first fastener member (22; Figure 1) – claim 21. It is

inherent that Barnes' "bolts" have "a head and an externally threaded end portion opposite the head" and are "second fastener members (18; Figure 1) comprises external threads" – claim 21

- iv. T-nut having a T-shape (as seen in Figure 1) first fastener members (22; Figure 1), as claimed by claim 27
- xxi. The showerhead electrode assembly of Claim 17, wherein the backing member (1; Figure 1) comprises a first surface (bottom surface of 1) and a second surface (top surface of 1) opposite the first surface, the first surface (bottom surface of 1) is secured to the silicon electrode (Figure 1) and the second surface (top surface of 1) is secured to the top plate (7; Figure 1; column 2, lines 35-58), as claimed by claim 30

Ishida teaches a similarly constructed plasma apparatus (Figure 1) and electrode (106; Figure 1, 3-5) including a plurality of first fastener members (109; Figures 3-4) with a first portion (Top of 109) being wider in transverse direction than a second portion (Bottom of 109). Ishida's first fastener members (109; Figures 3-4) each include a head (top thickest portion of 109; Figure 1) bonded<sup>1</sup> with an elastomer (31a – "O-rings"; Figure 3; column 4, lines 23-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add Ishida's first fastener members (109; Figures 3-4) to Barnes' apparatus and construct Barnes' electrode of silicon, having plural gas injection openings, and construct Barnes' backing member (1; Figure 1) of graphite.

Motivation to add Ishida's first fastener members (109; Figures 3-4) to Barnes' apparatus is for transferring heat among Ishida's component parts to avoid deformation as taught by Ishida

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<sup>1</sup> Bond *verb* 3 a : to cause to adhere firmly - <http://www.m-w.com/cgi-bin/dictionary>

Art Unit: 1763

(column 2; lines 39-46), and motivation to construct Barnes' a electrode of silicon, having plural gas injection openings, and construct Barnes' backing member (1; Figure 1) of graphite is for using plasma compliant materials as taught by Barnes (column 1; lines 9-21). Further, it is well established that the duplication of parts is obvious (In re Harza , 274 F.2d 669, 124 USPQ 378 (CCPA 1960) MPEP 2144.04). Further, it has been held that it is obvious to make whole elements separable (In re Dulberg, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961) – MPEP 2144.04.

9. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes; Michael et al. (US 6,818,096 B2) and Ishida; Toshimichi et al. (US 5,766,364 A) in view of Simonson; Peter Melott (US 5681135 A). Both Barnes and Ishida are discussed above. Barnes and Ishida do not teach Barne's first fastener members (22; Figure 1) has an externally threaded end portion opposite the head (widest portion of 18; Figure 1).

Simonson teaches first fastener members (91; Figure 6) which has externally threaded end portion (100; Figure 6; column 9; lines 11-21) opposite the head (106; Figure 6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add external threads to Barnes's first fastener members (22; Figure 1) as taught by Simonson.

Motivation to add external threads to Barnes's first fastener members (22; Figure 1) as taught by Simonson is for preventing removal of Simonson's first fastener members (91; Figure 6; column 2, lines 35-58).

### ***Response to Arguments***

10. Applicant's arguments filed have been fully considered but they are not persuasive.

11. Applicant states:

Art Unit: 1763

“

Figure 1 of Barnes is a cross-sectional view of the plasma reactor electrode structure. As such, Figure 1 does not show the actual shape of the attachment bolt 22, much less that it includes a "head" configured to prevent its rotation relative to the Lid 7.

“

In response, and as outlined above, the Examiner believes that Barnes completely conveys Applicant's claimed structure. Barnes "bolts 22" or Applicant's first fastener members is clearly depicted as Barnes' dark-shaded members 22; Figure 1; column 2, lines 35-58. Barnes indeed shows the "actual shape" as argued by Applicant including a head (widest portion of 18; Figure 1) configured to prevent rotation of the first fastener members (22; Figure 1) relative to the first member (1; Figure 1), as claimed.

12. Applicant further states:

“

In fact, the cross-section shown in Figure 1 of Barnes is consistent with the attachment bolt having a circular horizontal cross-section, for example, which is not a shape that would prevent rotation of the attachment bolt 22 relative to the Lid 7.

“

Applicant's above statement is completely antithetical to the required structure of a Barnes "bolt":

Bolt – *n* 1: a metal rod or pin for fastening objects together that usually has a head at one end and a screw thread at the other and is secured by a nut<sup>2</sup>.

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<sup>2</sup> <http://www.m-w.com/dictionary/Bolt>

Art Unit: 1763

Thus because Barnes uses the specific structural lexicon of “bolt” then Barnes fully implies that 22 is used “for fastening objects together” contrary to Applicant’s opinion that Barnes’ “shape would prevent rotation of the attachment bolt 22 relative to the Lid 7”.

13. With reference to Ishida, Applicants state:

“

The portions are not mounted in an aperture of a first member, as recited in Claim 1. Ishida does not suggest that the portions of the heat conductor 109 shown in Figures 3 and 4 include a head configured to prevent rotation of those portions relative to a first member. In stark contrast, the portions of the heat conductor 109 shown in Figure 3 and 4 are part of the plate heat conductor 109.

“

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Ishida is not cited for the above claim elements as the Examiner has detailed in his description of Barnes.

14. Applicant states:

“

Ishida does not provide the required suggestion or motivation to modify Barnes' electrode structure by adding Ishida's plate heat conductor 109. Ishida's heat conductor 109 does not include a plurality of first fastener members, each of which is mounted in a respective aperture of a first member. The portions of the first conductor 109 shown in Figures 3 and 4 of Ishida are not

Art Unit: 1763

mounted in an aperture of a first member, but are surrounded by gas pressure equalizing space 109. As such, even if Barnes' electrode structure was modified by adding Ishida's plate heat conductor 109, the resulting structure still would not include at least the features of "a plurality of first fastener members each mounted in an aperture of the first member, each first fastener member including a head configured to prevent rotation of the first fastener members relative to the first member." as recited in Claim 1.

“

In response, Applicant is mistaken. The Examiner's explicit statement of motivation being “Motivation to add Ishida's first fastener members (109; Figures 3-4) to Barnes' apparatus is for transferring heat among Ishida's component parts to avoid deformation as taught by Ishida (column 2; lines 39-46)...” *is not* Applicant's suggested combination of “modify Barnes' electrode structure by adding Ishida's plate heat conductor 109”.

15. In response to applicant's argument that “modify Barnes' electrode structure by adding Ishida's plate heat conductor 109”, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

16. Applicant states:

“

Moreover, the Official Action provides no reasons as to why it would have been obvious, in view of the applied combination of references, to modify Barnes' electrode structure to bond the lid 7

Art Unit: 1763

('first member") to the upper plate 1 and outer ring 8 ("second member"). Absent any motivation for modifying Barnes' electrode structure to result in the component recited in Claim 1 , including, inter alia, the features of "a 'first member bonded to a second member, the 'first member including a plurality of through apertures having a first portion and a second portion wider than the first portion," (emphasis added), the component recited in Claim 1 is patentable over the applied combination of references for this additional reason.

“

17. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Examiner has already demonstrated teaching, suggestion, and motivation to found in the references themselves and in the knowledge generally available to one of ordinary skill in the art. In particular, the Examiner's stated motivation to add Ishida's first fastener members (109; Figures 3-4) to Barnes' apparatus is for transferring heat among Ishida's component parts to avoid deformation as taught by Ishida (column 2; lines 39-46). As designated, this beneficial concept is taught by Ishida (column 2; lines 39-46). Further, motivation to construct Barnes' electrode of silicon, having plural gas injection openings, and construct Barnes' backing member of graphite is for using plasma compliant materials as taught

Art Unit: 1763

by Barnes (column 1; lines 9-21). As a result, the motivation is drawn directly from the teachings in the references themselves.

18. Applicant's arguments with respect to claim 2 is addressed above in the Examiner's new grounds of rejection.

19. Applicant states:

“

The Official Action asserts that Ishida discloses "first fastener members " 109 (i.e., heat conductors 109) "bonded" with an "elastomer" 31a (i.e., O-ring 31a). Ishida's heat conductor 109 is not bonded to the temperature controlling plate 106 by the O-rings 31a. Rather, the O-rings 31a form a gas seal between the plate 106 and heat conductor 109 when these plates are fastened to each other by bolts 30a.

“

In response, the Examiner disagrees. As stated by the Examiner, Ishida's first fastener members (109; Figures 3-4) each include a head (top thickest portion of 109; Figure 1) bonded<sup>3</sup> with an elastomer (31a – "O-rings"; Figure 3; column 4, lines 23-28). The Examiner directs the reader to the included definition of "bonded" which the Examiner believes as the broadest reasonable interpretation. It is well established that claim terms are issued their "plain meaning" according to MPEP 2111.01: Claim terms are presumed to have the ordinary and customary meanings attributed to them by those of ordinary skill in the art. *Sunrace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1302, 67 USPQ2d 1438, 1441 (Fed. Cir. 2003); *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298 67 USPQ2d 1132, 1136 (Fed. Cir. 2003).

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<sup>3</sup> Bond *verb* 3 a : to cause to adhere firmly - <http://www.m-w.com/cgi-bin/dictionary>

Art Unit: 1763

20. Applicant states that Barnes does not teach the claim 4 requirement of:

“

As recited in Claim 1 from which Claim 4 depends, the second portions of the apertures are wider than the first portions.

“

In response the Examiner's certification that Barnes teaches a second portion (bottom portion of through hole for 18; Figure 1) wider than the first portion (top portion of through hole for 18; Figure 1).

21. Applicant states:

“

At page 9, point (v), the Official Action asserts that Barnes discloses a temperature-controlled "top plate". However, as discussed above, the Official Action also asserts that Barnes' lid 7 is a "first member." The component recited in Claim 4 patentably distinguishes over the combination of Barnes and Ishida despite this inconsistent interpretation of Barnes. Claim 4 recites that the temperature-controlled top plate is on the 'first member and adjacent the narrower first portion of the apertures of the 'first member. According to Claim 4, the top plate is a separate part of the component from the 'first member. To the extent that Barnes' lid 7 has been asserted to be a "first member," as claimed, then Barnes does not also disclose the recited "temperature-controlled top plate" adjacent the lid 7.

“

In response, the Examiner points out that the Examiner's numerous drawing objections and specification objections based on numerous alias names for any one of Applicant's claimed parts

is just the rationale why the Examiner requested amendments to clarify the claimed invention. In particular, Applicant's most recent specification amendments attempt to address these objections. Now Applicant has amended the specification to rename "first part" to "first member" which is also known, in the specification, as "backing member" (newest [0006]) but distinct from "backing ring".

22. The remainder of Applicant's arguments are addressed above in the Examiner's new grounds of rejection as necessitated by amendment.

### ***Conclusion***

23. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272-

Art Unit: 1763

1442. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official fax phone number for the 1763 art unit is (571) 273-8300. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (571) 272-1700. If the examiner can not be reached please contact the examiner's supervisor, Parviz Hassanzadeh, at (571) 272-1435.

*Parviz Hassanzadeh*  
7/19/6